L Number	Hits	Search Text	DB	Time stamp
1	2932	phase adj (detectors comparators)	USPAT	2003/01/23 10:57
2	528	loop adj filters	USPAT	2003/01/23 10:57
3	30181	digital adj analog	USPAT	2003/01/23 10:41
4	21858	oscillators	USPAT	2003/01/23 10:58
5	4	(phase adj (detectors comparators)) and (loop adj filters) and (digital adj analog) and oscillators	USPAT	2003/01/23 10:44
6	1868	timing adj recovery	USPAT	2003/01/23 10:44
7	7	(phase adj (detectors comparators)) and (loop adj filters) and oscillators and (timing adj recovery)	USPAT	2003/01/23 10:46
8	45	(phase adj (detectors comparators)) and (loop adj filters) and oscillators	USPAT	2003/01/23 10:46
9	18821	phase adj (detector comparator)	USPAT	2003/01/23 10:58
10	5953	loop adj filter	USPAT	2003/01/23 10:58
11	118209	oscillator	USPAT	2003/01/23 10:58
12	477	(phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog)	USPAT	2003/01/23 10:58
13	54	(timing adj recovery) and ((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog))	USPAT	2003/01/23 11:07
14	423	((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog)) not ((timing adj recovery) and ((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog)))	USPAT	2003/01/23 11:07
15	4481	sampling adj clock	USPAT	2003/01/23 11:08
16	39	(((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog)) not ((timing adj recovery) and ((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog)))) and (sampling adj clock)	USPAT	2003/01/23 11:15
17	2598	analog near2 (dll (phase adj lock$5 adl loop))	USPAT	2003/01/23 11:17
18	134	(analog near2 (dll (phase adj lock$5 adl loop))) and (digital adj analog) and (loop adj filter)	USPAT	2003/01/23 11:17
19	119	((analog near2 (dll (phase adj lock$5 adl loop))) and (digital adj analog) and (loop adj filter)) and oscillator	USPAT	2003/01/23 11:17
20	92	(((analog near2 (dll (phase adj lock$5 adl loop))) and (digital adj analog) and (loop adj filter)) and oscillator) not (((phase adj (detectors comparators)) and (loop adj filters) and (digital adj analog) and oscillators) ((phase adj (detectors comparators)) and (loop adj filters) and oscillators and (timing adj recovery)) ((phase adj (detectors comparators)) and (loop adj filters) and oscillators) ((timing adj recovery) and ((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog))) ((((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog)) not ((timing adj recovery) and ((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog)))) and (sampling adj clock)))	USPAT	2003/01/23 11:18

21	3	(timing adj recovery) and ((((analog near2 (dll (phase adj lock$5 adl loop))) and (digital adj analog) and (loop adj filter)) and oscillator) not (((phase adj (detectors comparators)) and (loop adj filters) and (digital adj analog) and oscillators) ((phase adj (detectors comparators)) and (loop adj filters) and oscillators and (timing adj recovery)) ((phase adj (detectors comparators)) and (loop adj filters) and oscillators) ((timing adj recovery) and ((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog))) ((((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog)) not ((timing adj recovery) and ((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog)))) and (sampling adj clock))))	USPAT	2003/01/23 11:19
22	89	((((analog near2 (dll (phase adj lock$5 adl loop))) and (digital adj analog) and (loop adj filter)) and oscillator) not (((phase adj (detectors comparators)) and (loop adj filters) and (digital adj analog) and oscillators) ((phase adj (detectors comparators)) and (loop adj filters) and oscillators and (timing adj recovery)) ((phase adj (detectors comparators)) and (loop adj filters) and oscillators) ((timing adj recovery) and ((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog))) ((((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog)) not ((timing adj recovery) and ((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog)))) and (sampling adj clock)))) not ((timing adj recovery) and ((((analog near2 (dll (phase adj lock$5 adl loop))) and (digital adj analog) and (loop adj filter)) and oscillator) not (((phase adj (detectors comparators)) and (loop adj filters) and (digital adj analog) and oscillators) ((phase adj (detectors comparators)) and (loop adj filters) and oscillators and (timing adj recovery)) ((phase adj (detectors comparators)) and (loop adj filters) and oscillators) ((timing adj recovery) and ((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog))) ((((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog)) not ((timing adj recovery) and ((phase adj (detector comparator)) and (loop adj filter) and oscillator and (digital adj analog)))) and (sampling adj clock)))))	USPAT	2003/01/23 11:20

US-PAT-NO: 5859671

DOCUMENT-IDENTIFIER: US 5859671 A

TITLE: Symbol timing recovery circuit and method

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In the symbol clock phase adjustor 60 for adjusting the phase of the symbol clock by the phase error signal, a loop filter 161 accumulates the phase error signal and scales the accumulated phase error signal to a control voltage level of a voltage controlled oscillator 163. A digital-to-analog (D/A) converter 162 converts the output of the loop filter 161 to an analog voltage. The voltage controlled oscillator 163 is controlled by the voltage generated from the D/A converter 162 and adjusts the phase of the symbol clock to be supplied to the A/D converter 10 as the symbol clock.

a loop filter for accumulating said phase error and scaling the accumulated phase error to a control voltage level;

a loop filter for accumulating said phase error and scaling the accumulated phase error to a control voltage level;

US-PAT-NO: 5519356

DOCUMENT-IDENTIFIER: US 5519356 A

TITLE: Methods and apparatuses for fast decision directed carrier recovery
with wide locking range

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.phi. times .pi./2 converts the phase error .phi. into units of radians. The
computed phase errors are delivered to a loop filter 66 such as illustrated in
FIG. 11. The loop filter 66 essentially accumulates (or integrates) the
calculated phase errors over time. If the accumulator gain K.sub.I of
amplifier 110 is less than the direct input gain K.sub.D of amplifier 111, more
weight is given to the presently calculated phase error .phi. and less weight
to the accumulated phase errors. The digital output of the loop filter V is
converted into an analog signal by a digital to analog converter 67 and is
supplied to the VCO 60 so as to adjust the demodulation frequency f.sub.cr
toward the modulation frequency f.sub.ct.